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 (Amended) An exposure apparatus for exposing a transfer pattern of a mask onto a photosensitive substrate in an overlapping manner, so as to expose a pattern larger than said transfer pattern of said mask onto said photosensitive substrate;

said exposure apparatus comprising:

a light source unit for supplying illumination light;

an illumination optical system for guiding said illumination light to said mask having said transfer pattern;

said illumination optical system comprising:

an illumination area defining unit, disposed at a position substantially optically conjugate with said mask, for defining a predetermined area corresponding to an illumination area to be formed on said mask; and

an imaging optical system, between the illumination area defining unit and the mask, for forming said illumination area on said mask by projecting said predetermined area defined by said illumination area defining unit onto said mask;

said exposure apparatus further comprising:

an adjusting unit for adjusting an optical characteristic of said imaging optical system so as to adjust an optical characteristic in said illumination area formed on said mask or in an exposure area formed on said photosensitive substrate.



22. (Amended) An exposure apparatus according to claim 14, further comprising a measuring unit for measuring said optical characteristic;

wherein said adjusting unit carries out said adjustment based on a result of measurement obtained by said measuring unit.



30. (Amended) A method of manufacturing a microdevice,

said method comprising:



an illumination step of illuminating a mask having a transfer pattern with illumination light; and

an exposure step of exposing said transfer pattern of said mask onto a photosensitive substrate in an overlapping manner;

said illumination step including:

an illumination area defining step of defining a predetermined area corresponding to an illumination area to be formed on a mask at a position substantially optically conjugate with said mask; and

an illumination area forming step of forming said illumination area on said mask by projecting said predetermined area onto said mask by using an imaging optical system that is located between the position where the predetermined area is defined and the mask:

said method further comprising:

an adjusting step of adjusting an optical characteristic of said imaging optical system prior to said exposure step.

36. (Amended) A method of manufacturing a microdevice;

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said method comprising:

an illumination step of illuminating a mask having a transfer pattern with illumination light; and

an exposure step of exposing said transfer pattern of said mask onto a photosensitive substrate;

said exposure step including a projection step of projecting said transfer

pattern of said mask onto said photosensitive substrate by using a projection optical system;

said illumination step including:

an illumination area defining step of defining a predetermined area corresponding to an illumination area to be formed on said mask at a position substantially optically conjugate with said mask; and

an illumination area forming step of forming said illumination area on said mask by projecting said predetermined area onto said mask by using an imaging optical system;

said method satisfying an expression of:

$$0.01 < NA1/(NA2 \times \beta) < 6$$

where NA1 is the maximum numerical aperture of said imaging optical system on a side opposite from said mask side,  $\beta$  is the absolute value of imaging magnification of said imaging optical system, and NA2 is the maximum numerical aperture of said projection optical system on said photosensitive substrate side;

said method further comprising an adjusting step of adjusting an optical characteristic of said imaging optical system prior to said exposure step.

43. (Amended) A method of manufacturing a microdevice,

said method comprising:

illuminating a mask having a predetermined pattern by using an illumination optical system including an illumination area forming optical system for forming an illumination area on said mask;

exposing a photosensitive substrate by using a projection optical system for projecting a pattern image of said mask onto said photosensitive substrate; and

adjusting said illumination optical system;

said method satisfying an expression of:

$$0.01 < NA1/(NA2 \times \beta) < 6$$

